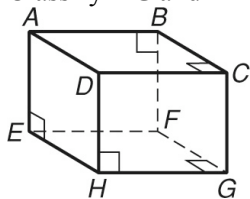


Geometry Chapter 3 Study Guide

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Classify \overline{HG} and \overline{AD} .

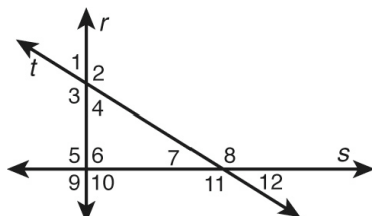


- A skew segments
- B parallel segments
- C perpendicular segments
- D intersecting segments

- _____ 2. If lines ℓ and m are skew, how many planes contain two points of both lines?

- | | |
|-----|-----|
| F 0 | H 2 |
| G 1 | J 3 |

- _____ 3. Which are NOT alternate interior angles?



- | | |
|-----------------------------|-----------------------------|
| A $\angle 3$ and $\angle 6$ | C $\angle 2$ and $\angle 3$ |
| B $\angle 2$ and $\angle 7$ | D $\angle 4$ and $\angle 5$ |

- _____ 4. The angles formed by two lines and a transversal are labeled 1 through 8. If $\angle 1$ and $\angle 8$ are alternate interior angles and $\angle 1$ and $\angle 5$ are vertical angles, what type of angle pair is $\angle 5$ and $\angle 8$?

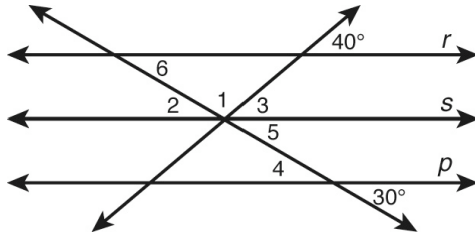
- F alternate exterior angles
- G corresponding angles
- H alternate interior angles
- J same-side interior angles

Name: _____

ID: A

- _____ 5. Which correctly completes the sentence? When two lines are parallel, the acute angles they form with a transversal are _____ to the obtuse angles.

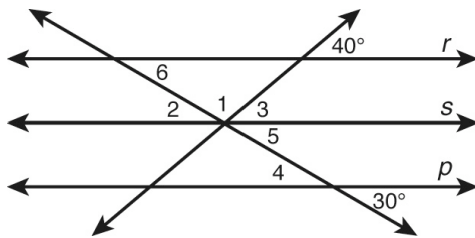
A supplementary
B complementary
C congruent
D vertical



_____ 6.

Given $r \parallel s \parallel p$, which angle is NOT congruent to $\angle 4$?

F $\angle 2$ H $\angle 5$
G $\angle 3$ J $\angle 6$

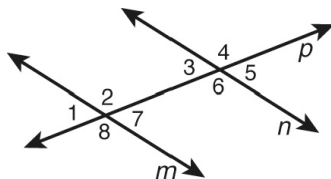


_____ 7.

Given $r \parallel s \parallel p$, what is the measure of $\angle 1$?

A 40° C 110°
B 90° D 140°

- _____ 8. Which CANNOT be used to prove that lines m and n are parallel?



F $\angle 2 \cong \angle 4$
G $\angle 4$ is supplementary to $\angle 7$.
H $\angle 4$ is supplementary to $\angle 5$.
J $\angle 1 \cong \angle 5$

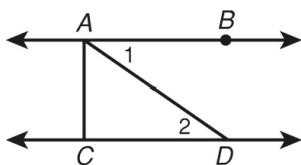
ID: A

-

- 3

Name: _____

ID: A



_____ 12.

Given: \overline{AC} is the shortest segment from A to \overline{CD} and $m\angle 1 = m\angle 2$.

Prove: $\overleftrightarrow{AB} \perp \overleftrightarrow{AC}$

Proof:

Statements	Reasons
1. $m\angle 1 = m\angle 2$	1. Given
2. ____?	2. Given
3. $\overline{AC} \perp \overline{CD}$	3. Distance from a point to a line
4. ____?	4. Conv. of Alternate Int. <u>/s</u> Thm.
5. $\overline{AB} \perp \overline{AC}$	5. ____?

Which is the statement for Step 2?

F $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$

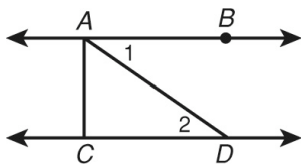
G $\overleftrightarrow{BD} \perp \overleftrightarrow{CD}$

H $\overleftrightarrow{AB} \perp \overleftrightarrow{CD}$

J None of these

Name: _____

ID: A



_____ 13.

Given: \overline{AC} is the shortest segment from A to \overleftrightarrow{CD} and $m\angle 1 = m\angle 2$.

Prove: $\overleftrightarrow{AB} \perp \overleftrightarrow{AC}$

Proof:

Statements	Reasons
1. $m\angle 1 = m\angle 2$	1. Given
2. _____?	2. Given
3. $\overline{AC} \perp \overline{CD}$	3. Distance from a point to a line
4. _____?	4. Conv. of Alternate Int. \angle s Thm.
5. $\overline{AB} \perp \overline{AC}$	5. _____?

Which is the justification for Step 5?

- A 2 lines \perp to same line \rightarrow 2 lines \parallel
- B 2 intersecting lines form linear pair of $\cong \angle$ s \rightarrow lines \perp
- C \perp Transv. Thm.
- D Same-Side Interior Angles Theorem

_____ 14. Given the point $J(-2, -4)$, for which point K is \overleftrightarrow{JK} a line with undefined slope?

- F $K(2, 4)$
- G $K(2, -4)$
- H $K(4, 2)$
- J $K(-2, 4)$

_____ 15. If $\overline{EF} \perp \overline{GH}$ for the points $E(-2, 5)$, $F(x, y)$, $G(-2, 2)$, and $H(0, 0)$, which is a possible ordered pair for F ?

- A $(2, 1)$
- B $(-1, 4)$
- C $(3, 1)$
- D $(3, 10)$

Name: _____

ID: A

- _____ 16. Given points $A(-1, 4)$, $B(0, 4)$, $C(2, 0)$, and $D(2, -5)$, what types of lines are \overleftrightarrow{AB} and \overleftrightarrow{CD} ?
F parallel
G perpendicular
H horizontal
J vertical
- _____ 17. Which is an equation of a horizontal line?
A $x = 3$
B $y = -4$
C $y = x$
D $y = -x$
- _____ 18. Which is the equation of a line that does NOT go through the origin?
F $x = 0$
G $y = x + 1$
H $y = x$
J $y = 2x$
- _____ 19. Which line is NOT parallel to $y = \frac{2}{3}x + 2$?
A $-2x + 3y = -6$
B $\frac{1}{2}y = \frac{1}{3}x - 1$
C $6y + 12 = 4x$
D $4x + 6y = 12$
- _____ 20. Which of the following is the equation of the line that passes through $(2, 1)$ and is perpendicular to $5x + y = 9$?
F $x + 5y = 3$
G $y = -5x + \frac{3}{5}$
H $-x + 5y = 3$
J $y = 5x + \frac{3}{5}$